



How far students walk so that faster  
4b) student arrives 5.5 min before slower  
student?

$$v_1 = 0.90 \text{ m/s}$$

$$v_2 = 1.90 \text{ m/s}$$

$$\Delta x = ?$$

$$t_1 - t_2 = 330 \text{ s}$$

$$v = \frac{\Delta x}{\Delta t}$$

$$t_1 - t_2 = \frac{\Delta x}{v_1} - \frac{\Delta x}{v_2 \text{ (new)}}$$

$$\frac{\text{difference in time from A}}{\text{displacement}} = \frac{\text{new time}}{\text{new displacement}}$$

$V_i$	$a$	Motion of object
+	+	speeding up (pos.)
-	-	speeding up (neg.)
+	-	slowing down (pos.)
-	+	slowing down (neg.)
- or +	0	constant velocity
0	- or +	speeding up from rest
0	0	<+ rest

Kinematics Equations:

$$\Delta x \quad \Delta x = v_i \Delta t + \frac{1}{2} a (\Delta t)^2$$

$$\Delta t \quad v_f = v_i + a \Delta t$$

$$a \quad v_i \quad v_f \quad v_f^2 = v_i^2 + 2a \Delta x$$

HW: p.70: 21, 25  
p.71: 34